Contribution ID : **49** Type : **Oral**

The DarkSide-20k experiment

mercoledì 20 dicembre 2023 12:30 (20)

This talk will provide an overview of the DarkSide-20k experiment by the Global Argon Dark Matter Collaboration. This experiment aims to explore the WIMP hypothesis by detecting WIMP-nucleon elastic scattering with a dual-phase time projection chamber (TPC) detector filled with low-radioactivity underground liquid argon. We will discuss the current status of the experiment, as well as the involvement of the Cryogenic Laboratory of our department in the testing of photo-detection systems with a dedicated cryogenic testing facility and R&D with Proto-0, a small-scale prototype of DarkSide-20k.

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Session Classification : Astro Physics & Particle

Track Classification : Astrophysics & Astroparticle Physics